# Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



# Heat and Energy Lab

Objective- observe and describe heat as a form of energy

Materials:

* Ice
* Water
* Graduated cylinder
* Thermometer
* Hot plate
* 400 mL beaker

Procedure:

1. Fill the beaker just over half way with chipped ice
2. Add 7mL of water to the beaker and mix
3. Record the temperature at time zero – make sure the thermometer does NOT touch the bottom or sides of the beaker; it must be suspended in the materials
4. Turn on the hotplate
5. Gradually heat the mixture while suspending the thermometer in the materials (do not use the thermometer to stir, do not remove the thermometer from the beaker)
6. Record the *temperature AND your observations* at **1 minute intervals** in the table provided
7. Continue to heat the water and record the temperature until the water has been boiling for **5** minutes. Note: Do NOT let the beaker go dry, turn the heat off BEFORE the water has all boiled off
8. Graph your data on the graph paper provided. Label your graph “**Water – from ice to steam**.” Place temperature on the vertical axis and time on the horizontal access.
9. Answer the analysis questions on the back of your graph paper

Analysis:

1. Describe the changes that occurred to the ice?
2. What phases of matter were present in this experiment?
3. What happened to the temperature of the water as the ice melted?
4. Why do you think the temperature remained constant as the water boiled?
5. What produced the energy for the change in the material?
6. What does this lab show us about heat and energy?

## Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **Time (minutes)** | **Temperature** | **Observations** |
| zero |  | The beaker is just over half filled with ice |
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